UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,584	07/01/2003	Rajneesh Taneja	ABB01259P00350US (6950.US	5230

7590 03/14/2007

TAP Pharmaceutical Products, Inc.
Attention: Mark J. Buonaiuto
675 North Field Drive
Lake Forest, IL 60045

EXAMINER	
SASAN, ARADHANA	
ART UNIT	**PAPER NUMBER**
1609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/611,584	TANEJA, RAJNEESH	
	Examiner	Art Unit	
	Aradhana Sasan	1609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Application

1. The amendment filed on 09/06/2006 is acknowledged.

2. The terminal disclaimer filed on 09/11/2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the full statutory term of any patent granted on pending reference Application number 10/611,044 filed on July 1, 2003 is acknowledged.

3. Claims 1-9 are included in the prosecution.

4. The rejection of claims 1-9 on the basis of provisional obviousness-type double patenting has been withdrawn in view of the terminal disclaimer filed.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(a) and 102 (e) as being anticipated by WO 02/45692.

Claims 1, 2 and 5 are drawn to a composition comprising micro-granules of enterically coated micro-granules of a proton pump inhibitor and a liquid suspension with a pH less than 6 and viscosity sufficient to suspend the micro-granules. The particle size of the micro-granules is between 100μm and 900μm. A method of treating a patient with a gastrointestinal disorder using the composition of micro-granules and liquid suspension is also claimed.

WO '692 discloses compositions comprising acid labile drugs, specifically proton pump inhibitors in a suspension to be administered to a patient in need thereof. This reference teaches that it is known to coat these oral dosage forms of acid labile active ingredients with enteric coating (Page 1). The particle size of the active agent is less than 2 mm, and preferably between 50-800 μm (Page 4). Among the proton pump inhibitors listed was lansoprazole (Page 1, and Example 6, Page 13). This reference teaches providing a juice or suspension for the oral administration of the acid labile active agent (Page 2). The dosage form is in the form of a powder and prior to administration the active agent is combined with the liquid vehicle (Page 3).

WO '692 teaches the composition has a viscosity sufficient to form a suspension because it teaches that the composition is made into a suspension. As the reference teaches the same composition, it is the position of the examiner that the suspension would have the same pH as that claimed by Applicant. As Applicants themselves teach (Page 4, lines 19-22) the composition may inherently have the desired pH of less than 6.0, and Applicant does not disclose specific examples of acidic excipients to add to the composition. The specification only discloses adding an acidifier but does not disclose what acidifier means. Since Example 6 and Example C teach forming enterically coated micro-granules and forming a suspension of the micro-granules, it is the position of the examiner that the composition would have the desired pH and a viscosity sufficient to form a suspension. Example C discloses that uniform swelling is achieved. If the solution had not been at a pH of 6 or below, then the enterically coated micro-granules would have been degraded and a solution would have formed. Thus the pH of the solution must be less than 6.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over WO 02/45692.

Claims 1-9 are drawn to a composition comprising micro-granules of enterically coated micro-granules of a proton pump inhibitor and a liquid suspension with a pH less than 6 and viscosity sufficient to suspend the micro-granules. The particle size of the micro-granules is between 100μm and 900μm. The claims also disclose a method of treating a patient with a gastrointestinal disorder using the composition, a kit comprising two containers (the first container with the micro-granules and the second container with the liquid suspension), and lansoprazole as the proton pump inhibitor in the composition.

WO 02/45692 (WO '692) discloses compositions comprising acid labile drugs, specifically proton pump inhibitors in a suspension. The reference teaches that it is known to coat these oral dosage forms of acid labile active ingredients with enteric coating (Page 1). The particle size of the active agent is less than 2 mm, and preferably between 50-800μm (Page 4). Among the proton pump inhibitors listed was lansoprazole (Page 1, and example 6, Page 13). The reference teaches providing a juice or suspension for the oral administration of the acid labile active agent (Page 2). The dosage form is in the form of a powder and prior to administration the active agent is combined with the liquid vehicle (Page 3).

Example 6 from WO '692 discloses a composition making micro-granules of lansoprazole, and Example C discloses forming a suspension of these micro-granules. Although WO '692 does not teach the pH requirements of less than 6.0 nor does it disclose what the viscosity of the suspension is that is formed in Example C, it would have been obvious to one of ordinary skill in the art to provide a suspension with the

specific pH requirements such that the enterically coated micro-granules would not dissolve in the liquid vehicle, but would form a suspension. As example C discloses that in the suspension a desirable swelling is achieved this would lead one of ordinary skill in the art to expect that the solution is in a pH range sufficiently low to prevent the degradation of the enterically coated micro-granules.

Although WO '692 does not teach the specific viscosity requirement it would be obvious to one of ordinary skill in the art to adjust the thickening ingredients in the composition to achieve the desired viscosity to suspend the micro-granules of lansoprazole.

WO '692 does not specifically disclose a kit composition. However, it does disclose first making the micro-granules and then adding them to a liquid vehicle. It would have been obvious to one of ordinary skill in the art that the two components, the micro-granules and the liquid vehicle would first need to be in separate containers before they are mixed. Thus a kit comprising two separate containers, one comprising the micro-granules of acid labile active agent (proton pump inhibitor) and the other the liquid vehicle would be obvious to one of ordinary skill in the art.

9. Claims 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over WO 94/25070 in view of WO 02/45692.

WO '070 teaches a pharmaceutical composition for oral administration to animals comprising a proton pump inhibitor in the form of beads that are enterically coated and incorporated with a pH buffer into water or a water solution (claim 6). The pH buffer is used to decrease the pH of the solution to 5.5 or below (Page 8, lines 17-19). The

proton pump inhibitor is lansoprazole (claim 11). The reference also teaches making a kit comprising the dry enteric-coated beads (claims 14, 15), and the enterically coated beads are added to a liquid vehicle, such as water.

WO '070 does not teach the viscosity requirement nor does it specifically teach making micro-granules of the proton pump inhibitor.

WO '692 cures this deficiency and is discussed in detail above. As discussed above, WO '692 discloses compositions comprising acid labile drugs, specifically proton pump inhibitors in a suspension to be administered to a patient in need thereof. The reference teaches that it is known to coat these oral dosage forms of acid labile active ingredients with enteric coating (Page 1). The particle size of the active agent is less than 2 mm, and preferably between 50-800 microns.

One of ordinary skill in the art would be motivated to make micro-particles because micro-particles make a more uniform suspension. One of ordinary skill in the art would be motivated to make a solution with a viscosity that is suitable to suspend the micro-granules, and would thus look to WO '692 that teaches that by adding thickening agents the desired viscosity can be achieved.

Given the teachings of WO '692 and WO '070, one having ordinary skill in the art would find it obvious to make enterically coated micro-granules of proton pump inhibitors (specifically lansoprazole) and provide a separate liquid suspension vehicle with a pH less than 6.0 and having a viscosity sufficient to suspend the micro-granules.

Response to Arguments

10. Applicant's arguments filed 09/06/2006 have been fully considered but they are not persuasive.

11. In response to the rejection of claims 1, 2, and 5 under 35 USC § 102(a) and § 102(e), applicant argues that WO '692 discloses that its compositions do not comprise enteric coatings. However, on Page 6 of WO '692, several examples of polymers are disclosed (povidone, methacrylic acid/ethyl methacrylate copolymer) which are conventionally used to make enteric coated compositions. Furthermore, on Page 8 of WO '692, it is disclosed that, "the microspheres can be further processed to the suspension without thereby losing a given functionality (such as ... resistance to gastric juice) in the thickened base." The "resistance to gastric juice" is an inherent property of enteric coatings. Therefore, this limitation of the claims is anticipated by the reference.

The rejection of claims 1, 2, and 5 under 35 USC § 102(a) and § 102(e) is maintained.

12. In response to the rejection of claims 1-9 under 35 USC § 103(a), applicant argues that some of the advantages of the invention are: the liquid formulation can be administered via feeding tubes, the composition can be titrated to provide varying doses, and uniform dosing can be provided (Pages 7-8). These are advantages of the invention and are not found in the claims of the application.

Applicant argues that WO '692 does not teach the enteric coating, rather a paraffin matrix is used which when administered via a feeding tube, could raise safety concerns for the patient, and alters the pharmacokinetic profiles of the composition. This

argument is not persuasive because as mentioned earlier, WO '692 discloses oral dosage forms of acid labile active ingredients with enteric coating (Page 1) and discloses examples of polymers conventionally used in enteric coatings (Page 6). As mentioned above, "resistance to gastric juices", which is an inherent property of enterically coated formulations, is also taught by WO '692 (Page 8). Moreover, it is generally known in the art that orally administered proton pump inhibitors (which are acid labile drugs) are enterically coated to prevent gastric acid degradation. Even if feeding tubes were used to administer the proton pump inhibitors, the active ingredient (proton pump inhibitors) would still have to be protected from gastric acid degradation. Regarding the paraffin matrix, a person skilled in the art will interpret the claims in the broadest reasonable manner. In this respect, the basic teaching of WO '692 is a composition in the form of a suspension with a proton pump inhibitor.

Applicant also argues that WO '692 does not teach micro-granules or a liquid vehicle with a pH less than 6.0. These arguments are not persuasive because in Example 6 (Page 13) the process of making the "drops" containing the active ingredient lansoprazole is disclosed. These "drops" obtained after prilling are small aggregates and to one skilled in the art can be considered micro-granules. The instant claims do not disclose the method of making the micro-granules of the PPI. Example C discloses forming a suspension of these micro-granules. A suspension is generally considered as having solids dispersed in liquids. Therefore, the dispersion of Example C is a liquid vehicle. Regarding the pH of the liquid vehicle being less than 6.0, as stated above, it would have been obvious to one of ordinary skill in the art to provide a suspension with

the specific pH requirements such that the enterically coated micro-granules would not dissolve in the liquid vehicle, but would form a suspension. As example C discloses that in the suspension a desirable swelling is achieved this would lead one of ordinary skill in the art to expect that the solution is in a pH range sufficiently low to prevent the degradation of the enterically coated micro-granules.

Applicant argues that WO '070 does not teach micro-particles of PPI or the viscosity requirement, compositions comprising a liquid vehicle, and that the compositions disclosed in WO '070 do not comprise micro-granules. These arguments are not persuasive because the enterically coated beads disclosed in WO '070 can be considered as micro-granules by one skilled in the art. As stated above, although the reference does not teach the specific viscosity requirement, it would be obvious to one of ordinary skill in the art to adjust the thickening ingredients in the composition to achieve the desired viscosity to suspend the micro-granules of lansoprazole. In claim 6 of WO '070, a composition comprising enterically coated beads of proton pump inhibitor are incorporated with a pH buffer into water or a water solution (claim 6). Therefore, this comprises the liquid vehicle.

13. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, applicant's argument that WO '692 "does not suggest or motivate a person skilled in the art to modify the compositions of WO '070 to arrive at the applicant's claimed invention ..." is not found persuasive. When the teachings are combined and the instant claims are given their broadest reasonable interpretation, the key limitations of the claimed invention (micro-granules of proton pump inhibitor which are enterically coated, and subsequently suspended in a liquid vehicle with a pH of less than 6.0 and having a viscosity sufficient to suspend the micro-granules) are met and obvious to one having ordinary skill in the art.

The rejection of claims 1-9 under 35 USC § 103(a) is maintained.

Conclusion

1. No claims are allowed.

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aradhana Sasan whose telephone number is (571) 272-9022. The examiner can normally be reached Monday to Thursday from 6:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang, can be reached at 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VICKIE KIM
PRIMARY EXAMINER